Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDRE CORDIER, DIDIER SEDARIES, CHRISTOPHE PIERIN
and ALAIN EYRAUD

Appeal No. 1999-2204
Application No. 08/951,003

HEARD: February 7, 2001

Before COHEN, ABRAMS, and STAAB, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-6 and 8-14, which are all of the claims pending in this application.[1]

We REVERSE.

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[1]An obvious typographical error in claim 1 was corrected by an amendment after the final rejection.

BACKGROUND

The appellants' invention relates to an apparatus for scrubbing a continuous flow of gas. An understanding of the invention can be derived from a reading of exemplary claim 1, which appears in the appendix to the Brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Bergman	2,091,349	Aug. 31, 1937
Jorgensen	2,690,332	Sep. 28, 1954
Streuber	3,053,520	Sep. 11, 1962
Black	3,225,522	Dec. 28, 1965
Dunn	3,807,143	Apr. 30, 1974
Gleason	4,060,399	Nov. 29, 1977
Haselden	4,318,870	Mar. 9, 1982
Russian Patent Publication[2] (Azerb)	472,662	Jun. 5, 1973

Claims 1-3, 8-11 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Black in view of either Dunn or Gleason.

Claims 4-6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Black in view of either Dunn or Gleason or, in the alternative, Black in view of either Dunn or Gleason, each taken further with Azerb.

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[2]Our understanding of this reference was obtained from a PTO translation, a copy of which is enclosed.

Claims 12 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Black in view of either Dunn or Gleason, each taken further in view of any one of Bergman, Jorgensen, Streuber or Haselden.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the Answer (Paper No. 21) for the examiner's complete reasoning in support of the rejections, and to the Brief (Paper No. 20) and Reply Brief (Paper No. 22) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The three rejections posed by the examiner are under 35 U.S.C. § 103, and we have evaluated them in the light of the guidance provided by our reviewing court.[3]

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[3]The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a prima facie case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure.

(continued...)

The appellants' invention is directed to apparatus for scrubbing with water a continuous flow of gas charged with solid or semi-solid particles to remove them and to recycle the cleansing water. Basically, in the appellants' invention gas charged with solid or semi-solid particles passes upward through slots in a plate positioned in the bottom of a scrubbing chamber adjacent to a reservoir of scrubbing water, in such a manner as to induct the water into the charged gas stream. The mixed stream of gas, particles and scrubbing water then continues upward through the scrubbing chamber until it impinges upon a splitter oriented perpendicularly to the flow, which causes most of the water and the particles to be removed from the stream. The scrubbing water is cleansed of the particles and recycled. In the manifestation of the invention recited in claim 14, the incoming charged gas is prewetted by ejecting scrubbing water into the stream while it passes through the inlet to the apparatus.

The examiner has taken the position that all of the subject matter recited in independent claims 1 and 14 is found in the Black reference, except for the means for separating and recycling the scrubbing water that is recited in claim 1 and the means for ejecting the scrubbing water into the gas steam at the inlet to the apparatus to prewet the gas, which is recited in claim 14. In the examiner's view, these two features are taught by

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[3](...continued)
See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988).

either of Dunn and Gleason, and it would have been obvious to one of ordinary skill in the art to add them to the Black apparatus. Answer, pages 5 and 6.

The appellants counter with two major arguments. With regard to claim 1, they assert that Black does not disclose or teach that the longitudinal adjutage (slot) through which the charged gas flows to a scrubbing chamber opens "directly into said scrubbing chamber" such that the scrubbing mixing flow exiting therefrom is "completely unobstructed within said scrubbing chamber between said longitudinal adjutage and said splitter," and that this deficiency is not overcome by considering Dunn or Gleason. As for claim 14, it is the appellants' view that the applied references fail to disclose or teach "ejecting means for ejecting scrubbing water into said gas inlet means to prewet the continuous flow of charged gas as said charged gas passes through said inlet means."

Claim 1 recites a scrubbing chamber that is defined by a side wall and a bottom plate perpendicular thereto, with a longitudinal adjutage projecting from the bottom plate into the scrubbing chamber, and a splitter situated in the scrubbing chamber spaced apart and downstream from the adjutage and positioned perpendicularly to the flow of charged gas. The claim further requires, as mentioned above, that the adjutage opens directly into the scrubbing chamber so that the flow issuing therefrom is completely unobstructed within the scrubbing chamber. The apparatus disclosed by Black is for the same purpose as the appellants' invention and has a number of commonalities of construction, including a

slotted plate through which the charged gas is passed to induct scrubbing water. However, we agree with the appellants that there is a major difference in construction which renders the examiner's rejection fatally defective.

As best shown in Black's Figures 5 and 6, the mixture of charged gas and scrubbing water exits from each adjutage (15) into a chimney (20), the purpose of which is to promote intimate contact between the charged gas and the scrubbing water (column 3, lines 19-22). A vertical baffle plate (21) is positioned in each chimney, and the bottom of the chimney is immersed in the pool of scrubbing water (column 3, lines 11-13). Upon exiting the chimney, the mixture continues upward to contact a perpendicular water eliminating vane (6), after which the water and entrained particles drop to the bottom of the vessel (1) and the cleaned gas exits through the top. The examiner has defined each of the chimneys in the Black apparatus as a "scrubbing chamber," and on this basis has concluded that the charged gas exits the adjutage directly into a scrubbing chamber. From our perspective, this reasoning is defective. According to claim 1, the "scrubbing chamber" not only must have a side and a bottom plate, but must contain a splitter downstream of the adjutage that is perpendicular to the continuous flow of charged gas. The only element in Black that meets this requirement is the water eliminating vane, and that is located downstream of the ends of the chimneys. This being the case, the chimneys cannot each be considered to be a scrubbing chamber. It then follows that since the

charged gas in the Black system flows from the adjutage into the chimney and then into the scrubbing chamber, rather than directly into the scrubbing chamber, it does not meet this term of the claim or that which requires that the flow be completely unobstructed within the scrubbing chamber between the adjutage and the splitter. These deficiencies are not cured by further considering the teachings of Dunn or Gleason.

The combined teachings of Black and Dunn, or Black and Gleason, fail to establish a prima facie case of obviousness with regard to the subject matter recited in independent claim 1, and we will not sustain the rejection. It follows that we also will not sustain the rejection of claims 2, 3 and 8-11, which depend from claim 1.

Claims 4-6, which also depend from claim 1, stand rejected on the basis the references applied against claim 1 taken further in view of Azerb, which was cited by the examiner for its showing of the adjutage shape recited in these claims. Be that as it may, Azerb does not overcome the problems with the rejection of claim 1 that is discussed above. The rejection of claims 4-6 is not sustained.

Claim 12 and 13 depend from claim 1, and stand rejected over the references applied against claim 1, plus any of Bergman, Jorgensen, Stabber or Haselden. The latter four references are cited with respect to the requirements added by claim 12 and 13, but do not alleviate the problems with claim 1. The rejection of claims 12 and 13 is not sustained.

The examiner's position with regard to claim 14 is that spray from Dunn's pipe 52 will "fall down under the force of gravity to intersect the incoming gas at the inlet pipe," and that "the leftmost (unnumbered) nozzle (22) of Gleason intersects the gas within gas inlet pipe (2)" (Answer, page 11). We do not agree. This claim requires that there be ejecting means for ejecting scrubbing water "into said gas inlet means to prewet the continuous flow of charged gas as said charged gas passes through said inlet means" (emphasis added). Dunn explicitly teaches that the charged gas be subjected to "prewashing" (column 2, line 37), which is accomplished, as shown in Figure 1, by a plurality of upward oriented nozzles (53) located in the path of the gas stream beneath the trays that hold the scrubbing water through which the gas bubbles. The gas inlet (47) is upstream of the prewashing nozzles. In our view, the continuous flow of charged gas issuing from the gas inlet would propel the prewash water spraying from its pipe along with it, rather than allowing it to move upstream, as would be necessary to support the examiner's position. To conclude otherwise would be speculation. Moreover, even if one were to accept the examiner's theory, the water spraying from nozzles 53 is not ejected into the gas inlet means to prewet the gas as it passes through the inlet means, as is required by the claim. A like situation exists with

respect to the Gleason apparatus (Figure 1).

It therefore is our conclusion that the combined teachings of Black and Dunn, and Black and Gleason, fail to establish a prima facie case of obviousness with regard to the subject matter of claim 14, and we will not sustain the rejection.

SUMMARY

None of the rejections are sustained.

The decision of the examiner is REVERSED.

IRWIN CHARLES COHEN Administrative Patent Judge	)
NEAL E. ABRAMS Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
LAWRENCE J. STAAB Administrative Patent Judge	)

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APPEAL NO. 1999-2204 - JUDGE ABRAMS
APPLICATION NO. 08/951,003

APJ ABRAMS

APJ COHEN

APJ STAAB

DECISION: **REVERSED**

Prepared By:

DRAFT TYPED: 30 Aug 01

FINAL TYPED: